



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,263	10/30/2003	Tetsuya Yoshitomi	S008-P03195US	2034
33356	7590	09/21/2004	EXAMINER	
SOCAL IP LAW GROUP 310 N. WESTLAKE BLVD. STE 120 WESTLAKE VILLAGE, CA 91362			MILLER, PATRICK L	
			ART UNIT	PAPER NUMBER
			2837	

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/699,263

Applicant(s)

YOSHITOMI ET AL.

Examiner

Patrick Miller

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 8, 1/9, 2/9, 3/9, 5/9, 10-12 is/are rejected.
- 7) ☒ Claim(s) 4, 6, 7, 4/9, 6/9, 7/9, 13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claims 1-13 are objected to because of the following informalities: See bullets below. Appropriate correction is required.
 - In claims 1, 8, and 10, relate the “opposite” direction to the “certain” direction. E.g. “in the opposite direction, with respect to the certain direction,” or similar wording.
 - Claim 3 recites, “a single phase motor” (line 3 of claim). Change “a” to “the” or “said.”

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 8, 1/9, 2/9, 10, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Guzik (4,710,686).
 - With respect to claims 1, 8, and 10, Guzik discloses unit and method for driving a single phase of a motor comprising: a first driver transistor/switching means that supplies a single phase coil with a driving current in a certain direction (Fig. 6, Q4, along with Q1); a second driving transistor/switching means that supplies the coil with a driving current in an opposite direction, with respect to the certain direction (Fig. 6, Q3, along with Q2); and a recirculating section that recirculates driving current by controlling on-off timings of said first and second transistors in

Art Unit: 2837

a predetermined period immediately before the direction of the driving current changes (Fig. 6, recirculating diodes in #14, 16, 18, 20; See also Fig. 9, recirculation is done in the last two steps of 'Current Polarity Command' = 1, before changing current direction in the motor, where 'Current Polarity Command' = 0).

- With respect to claims 2 and 11, the unit comprises a recirculation diode (col. 4, lines 15-40; Fig. 6, D9-12).
- With respect to claims 1/9 and 2/9, Guzik discloses the driving unit is implemented on an integrated circuit (Fig. 6, #12 and Fig. 7, #54; cols. 4/5, lines 52-68/1-22).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3, 5, 3/9, 5/9, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guzik (4,710,686) as applied to claims 1 and 10 above, and further in view of Yoshitomi et al (6,157,151).
- With respect to claims 3, 5, and 12, Guzik does not disclose a comparison section that compares an absolute value of a sine wave signal obtained from a Hall device that detects a rotational position of the motor and a reference value, and outputs a timing signal corresponding to said predetermined period.

Art Unit: 2837

- Yoshitomi et al disclose a control circuit for a single-phase motor that has a comparison section that compares an absolute value of a sine wave signal obtained from a Hall device and a reference value (Fig. 3, #18 compares output of #3; cols. ¾, lines 50-67/1-23), and outputs a corresponding timing signal (Fig. 3, output, 'I,' from #10). The motivation to implement a comparison section as described above is to provide the advantage of reducing the amount of noise produced by the system (col. 4, lines 32-41).
- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to implement into the system of Guzik, a comparison section, as described above, thereby providing the advantage of reducing system noise, as taught by Yoshitomi et al.
- With respect to claims 9/3 and 9/5, Guzik discloses the driving unit is implemented on an integrated circuit (Fig. 6, #12 and Fig. 7, #54; cols. 4/5, lines 52-68/1-22).

Allowable Subject Matter

4. Claims 4, 6, 7, 4/9, 6/9, 7/9, and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
- With respect to claims 4, 6, 7, and 13, the Prior Art does not disclose a single phase motor drive unit that has a recirculation section that stops recirculating when the motor cannot start, and does not resume recirculating until the output of a detection section changes from a stop signal to a rotation signal.

Art Unit: 2837

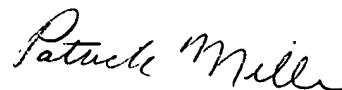
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Miller whose telephone number is 571-272-2070. The examiner can normally be reached on M-F, 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on 571-272-2800 ext 41. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-3431.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Patrick Miller
Examiner
Art Unit 2837

pm
September 6, 2004



DAVID MARTIN
SUPERVISOR, PATENT EXAMINER
TECHNOLOGY CENTER 2800